

DART AEROSPACE LTD	Work Order:	21777
Description: Ø2.750 Support	Part Number:	D2893-1
Dwg: D2893 Rev. A1	Qty:	2

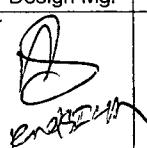
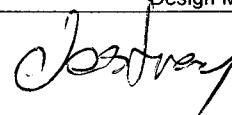
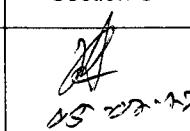
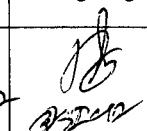
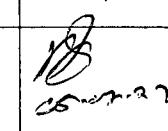
Page 1 of 1

Step	Location	Procedure	By	Date	Qty
1	DC	Issue Traveller. Blank size makes (2) D2893-1 Dwg not required	RF	04.10.22	2
2	PG	Issue P/O: 2004022 Description: D6104-005 Material: 17-4 PH SS (AMS 5643 OR AISI 630) as per Dwg D6104 Material release note required.		04.10.24	6
3	RG	Receive and Inspect for raw material dimensions. Ensure material release note is attached. B21777	CD	04/11/05	6
4	MS	Turn blank for Haas as per Folio FA081	EP	05/02/05	4
5	QC1	Inspect all dimensions as per Dwg D2893	EP	05/02/05	4
6	MV	Machine as per Folio FA081	RF	05/03/05	4/4
7	MV	Tumble & Deburr	RF	05/03/05	4/4
8	QC1	Inspect all dimensions to inspection sheet as per Dwg D2893	RF	05/03/05	4/4
9	QC8	Inspect dimensions for second check	RF	05.03.31	4/4
10	FP	Powder Coat White (4.3.5.2) per QSI 005 4.3	RF	05.03.31	4/4
11	QC3	Inspect Powder Coat	RF	05.03.31	4/4
12	ST	Identify and stock	DP	05-3-31	4/4
13	AC	Cost / part 222.90	SG	05.04.01	4/4
14	DC	Close W/O 222.90 Inspect Level 21	RF	05.04.07	4/4

Rev	Date	Change	Revised By	Approved
A	01.01.08	Preliminary Issue	EC	
B	01.07.19	Heat treat removed	NG	
C	02.11.26	Reformat; Added P/O	KJ / RF	RF

RELEASED
02.11.29 RF

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			
05/02/23	#4	two parts turned under size Proto type Programs			SP 05/02/23			

Part No: D2893-1

PAR #: _____

Fault Category: _____

NCR: Yes

No

DQA: 

Date: 05/04/06

NOTE: Date & initial all entries

QA: N/C Closed: _____

Date: _____

DART AEROSPACE LTD

Work Order:

21777

Description: Ø2.750 Support

Part Number:

D2893-1

Inspection Dwg: D2893 Rev. A1

Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2893 Rev A1/DSK078 Rev A and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	By	Date
Lathe Section									
A	2.707	2.712		2.710	2.710	2.710			
B	4.946	4.966			4.954	2.960			
C	3.064	3.084		3.071	3.079	3.079			
D	0.718	0.738			0.724	0.724			
E	0.090	0.110			0.101	0.100			
F	2.934	2.954		2.941	2.950	2.948			
G	2.166	2.186			2.169	2.170			
H	3.890	3.910		3.898	3.906	3.904			
I	0.914	0.934			0.924	0.924			
J	0.022	0.042		VS	0.032	0.032			
K	0.109	0.129			0.120	0.119			
L									
HAAS Section									
AA	2.985	3.005		3.000	2.998	2.999	3.000	3.000	05/03/13
AB	0.440	0.460		0.440	0.440	0.440	0.440		
AC	0.125	0.160		0.121.150	0.145	0.145	0.145		
AD	0.040	0.060		0.050	0.050	0.050	0.050		
AE	0.188	0.193	DT8706	0.191	0.191	0.190	0.191		
AF	0.125	0.160		0.145	0.146	0.144	0.145		
AG	0.140	0.160		0.150	0.150	0.150	0.150		
AH	1.360	1.400		1.392	1.395	1.395	1.395		
AI	0.040	0.060		0.050	0.050	0.050	0.050		
AJ	1.190	1.230		1.230	1.230	1.230	1.230		
AK	0.010	0.020		0.010	0.010	0.010	0.010		
AL	0.053	0.073		0.060	0.060	0.060	0.060		
AM	0.240	0.260		0.240	0.240	0.240	0.240		
AN	2.518	2.538		2.528	2.528	2.528	2.528		
AO	84.39	90.39	DT8699						
AP	0.257	0.262	DT8683	0.260	0.260	0.260	0.260		
AQ	0.053	0.073		0.062	0.062	0.062	0.062		
AR									
AS									
Accept/Reject									

Measured by: B.C.
Date: 05/03/13

Audited by: E
Date: 05.04.13

Rev	Date	Change	Revised by	Approved
A	02.12.13	New Issue	KJ/RF <u>RF</u>	<u>H</u>

RELEASED
03.07.01

DART AEROSPACE LTD

Work Order:

21777

Description: Ø2.750 Support

Part Number:

D2893-1

Inspection Dwg: D2893 Rev. A1

Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2893 Rev A1/DSK078 Rev A and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	By	Date
Lathe Section									
A	2.707	2.712		2.711	2.710				
B	4.946	4.966		4.952	4.948				
C	3.064	3.084		3.080	3.080				
D	0.718	0.738		0.724	0.724				
E	0.090	0.110		0.101	0.102				
F	2.934	2.954		2.950	2.952				
G	2.166	2.186		2.170	2.167				
H	3.890	3.910		3.902	3.895				
I	0.914	0.934		0.924	0.924				
J	0.022	0.042		0.032	0.032				
K	0.109	0.129		0.117	0.117				
L									
HAAS Section									
AA	2.985	3.005		2.998	3.000	2.998	2.998	36.	05/03/13
AB	0.440	0.460		0.440	0.440	0.440	0.440		
AC	0.125	0.160		0.125/0.150	0.145	0.146	0.140		
AD	0.040	0.060		0.050	0.050	0.050	0.050		
AE	0.188	0.193	DT8706	0.191	0.191	0.191	0.191		
AF	0.125	0.160		0.145	0.145	0.145	0.145		
AG	0.140	0.160		0.145/0.150	0.150	0.150	0.150		
AH	1.360	1.400		1.390	1.390	1.392	1.391		
AI	0.040	0.060		0.050	0.050	0.050	0.050		
AJ	1.190	1.230		1.230	1.230	1.230	1.230		
AK	0.010	0.020		0.010	0.010	0.010	0.010		
AL	0.053	0.073		0.060	0.060	0.060	0.060		
AM	0.240	0.260		0.240	0.240	0.240	0.240		
AN	2.518	2.538		2.528	2.528	2.528	2.528		
AO	84.39	90.39	DT8699	—	—	—	—		
AP	0.257	0.262	DT8683	0.260	0.260	0.260	0.260		
AQ	0.053	0.073		0.062	0.062	0.062	0.062		
AR									
AS									
Accept/Reject									

Measured by:	36.
Date:	05/03/13

Audited by:	R
Date:	05.04.05

Rev	Date	Change	Revised by	Approved
A	02.12.13	New Issue	KJ/RF	RF

RELEASED
03.07.01

Job Costing Report

Dart Aerospace Ltd.
Hawkesbury

Oct 21, 2004
08:51 am

Work Order No : 0021777
 Project Name : D2893-1
 Project For : WK448
 Work Order Type : Main
 Main WO Number :
 House Part Number : D2893-1
 Description : Support
 Manufactured : Yes *(12)*
 Amount Req'd : *12*
 Amount Done : 0
 Start Date : 10-20-04
 Est Finish Date : 11-30-04
 Act Finish Date :
 Drawings Req'd : No
 Ok for Approval :
 Approval Rec'd :
 Department Code:
 Burden Flags : NNNNNNNN
 WO Status : Open
 Invoice State : Not Invoiced
 Invoice Date :
 Invoice Number :
 Invoice Amount : 0.00
 Order Entry No :
 OE Value : 0.00
 Est Margin : 0.000%
 Actual Margin : 0.000%
 \$0 Posted to Finished Goods

	Estimated	Actual	Var. %	Posted	To Post
Material Cost :	0.00	0.00	0.00	0.00	0.00
Engineering Hours :	0.00	0.00	0.00	0.00	0.00
Engineering Cost :	0.00	0.00	0.00	0.00	0.00
Production Hours :	0.00	0.00	0.00	0.00	0.00
Production Cost :	0.00	0.00	0.00	0.00	0.00
Packaging Hours :	0.00	0.00	0.00	0.00	0.00
Packaging Cost :	0.00	0.00	0.00	0.00	0.00
OverHead Hours :	0.00	0.00	0.00	0.00	0.00
OverHead Cost :	0.00	0.00	0.00	0.00	0.00
CNC Hours :	0.00	0.00	0.00	0.00	0.00
CNC :	0.00	0.00	0.00	0.00	0.00
Misc. Hours :	0.00	0.00	0.00	0.00	0.00
Misc. :	0.00	0.00	0.00	0.00	0.00
Burden :	0.00	0.00	0.00	0.00	0.00
Total Cost :	0.00	0.00	0.00	0.00	0.00
Margin :	0.000	0.000			
Selling Cost :	0.00	0.00			

	Estimated	Actual
Labour Hrs/Amount Done :	0.00	0.00
Profits/ (Loss) :	0.00	0.00

CERTIFICATE OF TESTS
CERT SERIAL# 000472054TALLEY METALS
A Carpenter CompanyTalley Metals Technology, Inc.
P.O. Box 2498
Hartsville, SC 29551 Tel. 843.335.7540 Fax. 843.335.6465

ABNAHMEPRUEFZEUGNIS

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10/14/04

CUSTOMER/BESTELLER/CLIENT

SELLER/VERKÄUFER/VENDEUR PAGE 1 OF 2

A.M. CASTLE & CO
3400 N WOLF RD
FRANKLIN PARK , IL 60131

HVL

CUSTOMER ORDER NO./BESTELL-NR./N° DE COMMANDE	CARPENTER NO./WERKS-NR./N° DE REFERENCE INTERNE	DATE/DATUM/DATE	WEIGHT/GEWICHT/Poids
10-48402-01	W62080	10/14/04	2978

HEAT NUMBER / SCHMELZE-NR. / N° DE COULEE: G9473

PRODUCT DESCRIPTION: TYPE 17-4 SOLUTION ANNEALED COLD FINISH
PART NUMBER: IAC 14996SPECIFICATION: CASTLE 3174-03 REV 15 (08/27/03)
----- AMS 2303 REV E (10/ /01)
AMS 5643 REV Q (01/ /03) (UNS S17400) (AISI 630)
ASTM-A564-04
ASME-SA564 2001 EDITION

SIZE 4.000000 IN.(101.60 MM) RD BAR

PRIMARY HEAT CHEMISTRY(WT%):

C	MN	SI	P	S	CR
0.03	0.81	0.30	0.018	0.025	15.31
NI	MO	CU	N	CB	TA
4.26	0.21	3.79	0.029	0.25	0.01

CB+TA
0.26

THIS HEAT MELTED BY THE ARC/AOD PROCESSES

NO WELD REPAIR.

MATERIAL IS MANUFACTURED FREE FROM MERCURY, RADIUM AND ALPHA SOURCE
CONTAMINATION.

DISCS MACROETCHED AND APPROVED

HARDNESS AS SHIPPED, HB - 363 (MIDRADIUS)

MAGNETIC PARTICLE: FREQUENCY = 0 / SEVERITY = 0

MICROSTRUCTURE - FERRITE LESS THAN 1.00%

CASTLE METALS-CLV
DATE REC'D. 10/14/04
REC. DOC. # 45186
I.A.C. # 14996
APPRV'D BY. *[Signature]*

CONTINUED ON NEXT PAGE

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CERTIFICATE OF TESTS
CERT SERIAL# 000472054

Talley Metals Technology, Inc.
PO. Box 2498
Hartsville, SC 29551 Tel 843.335.7540 Fax 843.335.6465

ABNAHMEPRUEFZEUGNIS

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10/14/04

CUSTOMER/BESTELLER/CLIENT

SELLER/VERKAUFER/VENDEUR PAGE 2 OF 2

A.M. CASTLE & CO
3400 N WOLF RD
FRANKLIN PARK, IL 60131

HVL

CUSTOMER ORDER NO./BESTELL-NR./N° DE COMMANDE	CARPENTER NO./WERKS-NR./N° DE REFERENCE INTERNE	DATE/DATUM/DATE	WEIGHT/GEWICHT/Poids
10-48402-01	W62080	10/14/04	2978

HEAT NUMBER/SCHMELZE-NR./N° DE COULEE: G9473
CAPABILITY

900 F (482 C), 01 HR AIR COOL

YIELD STRENGTH, (0.20 %) KSI(MPA)	176.0 (1213)
TENSILE STRENGTH, KSI(MPA)	198.0 (1365)
ELONGATION IN 2.00", %	14.0
REDUCTION OF AREA, %	48.0
HARDNESS, HB	431.0

SOLUTION ANNEALED - 1900 F, 1 HOUR - RAPID COOL

MATERIAL WAS MELTED AND MANUFACTURED IN THE USA.
NO WELD REPAIR

WE HEREBY CERTIFY THAT THE ABOVE TEST DATA ARE IN ACCORDANCE WITH THE PURCHASE ORDER AND SPECIFICATION REQUIREMENTS.

STEPHANIE E. MCCULLUM
QUALITY ASSURANCE ENGINEER
CARPENTER TECHNOLOGY CORPORATION

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